Maths/science integrated lesson sequence: "Journey through space: You plan it!"

Overview of the lesson sequence and learning focus of integrated activities

In this sequence, students are asked to name and rank the order of the planets of our solar system, noting the relative size of each planet and the distance between them. The activities of this lesson sequence help students to understand the relative magnitude of large numbers, as well as giving them a better understanding of the sheer size and organisation of our solar system.

Overview of learning tasks	**Learning focus**
Lesson 1 • Name and rank the order of the planets of our solar system. • Recognise the relative size of each planet by assigning diameter values to each planet in words, rather than numbers.	**Mathematics focus:** Relative size and distance of the planets and making sense of large numbers. **Science focus:** The Earth is part of a system of planets orbiting around a star. Order of the planets.
Lesson 2 • Calculate relative speeds of different modes of transport, in particular: walking, driving, flying in an airplane or a space probe between Sydney and Melbourne.	**Mathematics focus:** Estimating, proportional reasoning e.g., speed can be measured in km/hour and metres/seconds, comparing units. **Science focus:** Using concrete, real life experiences to act as a springboard to more abstract ideas
Lesson 3 • Review estimates of travelling to the moon • Estimate the distance and speed it would take to a plane and probe to travel to your chosen place. • Calculate the distance and speed of the probe between Melbourne and Sydney and Earth and the moon. • Create a timeline to compare the distance between earth and the moon. Purpose: To use time as a tangible way of making comparisons.	**Mathematics focus:** Working with big numbers to develop an appreciation for differences in magnitude e.g., the moon is 384 million metres from the Earth. **Science focus:** Relative distances between the planets. The relative distances between planets is a different scale to the relative diameters of the planets. Size of the solar system in terms of distances or how long it takes to travel across it.

Source: https://www.monash.edu/education/teachspace/articles/how-can-teachers-integrate-maths-and-science-in-their-classrooms